

Title (en)
VARIABLE LUBRICANT VANE PUMP

Title (de)
VERSTELLBARE FLÜGELZELLENPUMPE MIT SCHMIERMITTEL

Title (fr)
POMPE DE GRAISSAGE À PALETTES À DÉBIT VARIABLE

Publication
EP 3027908 B1 20200415 (EN)

Application
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Abstract (en)
[origin: WO2014198322A1] The invention refers to a variable lubricant vane pump (10) for providing pressurized lubricant for an internal combustion engine. The pump comprises a pump housing (12) with a pump rotor (30), whereby the pump rotor (30) is provided with radially slidable vanes (32) rotating in a shiftable control ring (28) which envelopes a pump chamber (18) with numerous rotating pump compartments (191 - 197) rotating from a charge zone (22) to a discharge zone (24). When pressurized lubricant is discharged from the rotating pump compartments (192, 193) into an outlet cavity (14). The control ring (28) is shiftable with respect to the rotor axis (33) between a high pumping volume position and a low pumping volume position. A pressure control chamber (40) is provided for pushing the control ring (28) into a high pumping volume direction, whereby the control chamber is loaded with lubricant from the outlet cavity (14). A control valve (50) is provided for connecting or disconnecting the pressure control chamber (40) to a lubricant tank (52). A pilot chamber (54) is provided for pushing the control ring (28) into a low pumping volume direction against the pressure control chamber (40). A pilot chamber channel (48) is provided connecting the outlet cavity (14) with the pilot chamber (54). A control chamber channel (60) is directly connecting the outlet cavity (14) with the pressure control chamber (40), whereby the smallest flow cross-section of the control chamber channel (60; 60') is larger than 1/10 and not larger than 1/1 of the smallest flow cross-section of the pilot chamber channel (48).

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